The Water Utility Enterprise

Final — June 1990

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Santa Clara Valley Water District
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WATER DISTRICT
5750 Almaden Expressway
San Jose, California 95118

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Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
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Board of Directors:

The current year, 1989-90, is the fourth consecutive dry year for Santa Clara County. Rainfall is about 70% of normal and the local water storage in District reservoirs is 9% of capacity. Imported water stored in District reservoirs increases the total storage to 16% of capacity.

In March 1989, the District's Board of Directors adopted a mandatory water use reduction program based on 1987 water use. The cities and water retailers instituted water use restrictions and fiscal penalties and achieved a 19% reduction through the entire calendar year as compared to a 22% goal for the calendar year. As the drought continued into 1990, the Board of Directors reinstituted a mandatory conservation program of 20% reduction for Zone W-2 and 25% reduction for Zone W-5. The San Francisco Water Department also instituted a mandatory 25% reduction of 1987 water use to all of its Hetch-Hetchy water customers in Santa Clara County.

On February 13, 1990, the Bureau of Reclamation announced a 50% cutback in the District's request for San Felipe water, reducing deliveries to 76,250 acre-feet in 1990. The full 92,000 acre-feet of entitlement water is scheduled to be delivered from the State Water Project in calendar year 1990. About 26,000 acre-feet of water from Yuba County was received in 1990. The 1990 drought related losses are about $6.5 million dollars.

The District Act was amended, effective January 1990, to allow the District to establish a higher rate for increased pumping in a critical groundwater zone. Because of the recovery of the groundwater basin in 1989, a critical groundwater zone was not established this year.

The expansion of the In-County Distribution System continues. Construction of the Calero Pipeline was completed in July 1990. The Mountain View Distributary construction contract was awarded in January 1990 and is scheduled for completion in November 1990. The Milpitas Pipeline is in the design phase and scheduled to be advertised in late 1990. The planning of a proposed emergency intertie between the Milpitas Pipeline and the San Francisco Water Department's Hetch Hetchy Aqueduct is also scheduled to begin in late 1990. The Engineer's Reports and environmental documents for the Parallel East Pipeline and the East Reservoir and Delivery Main were started in June 1990.

The construction plans and specifications for the replacement of the Coyote Dam Outlet Works are complete. The project was advertised in July 1990.

The District's programs to protect the groundwater basin are continuing. Expenditures include overseeing the investigation and cleanup of fuel leaks, sealing abandoned wells, maintaining the groundwater basin database, wellhead protection pilot program, nonpoint source control, and coordination with the Regional Water Quality Control Board on the investigation and cleanup of solvent cases and landfills.

Based on the projected revenues and expenditures, an increase in water rates is needed. This is due to the 20% water use reduction in Zone W-2 and 25% water use reduction in Zone W-5 in 1990. Also, changes in the pricing policy by the Bureau have caused an increase in the cost of San Felipe water. The treated water surcharge is reduced in 1990-91 to maximize the sale of treated water, thus minimizing the use of groundwater. In Zone W-2, the financial impacts from the drought are recovered during the next three years while in Zone W-5, the recovery is during the next four years.

Following meetings with the Water Retail Agencies, the Agricultural Water Advisory Committee and the Santa Clara Valley Water Commission, the District Board of Directors adopted water rates for 1990-91 which are shown at the end of this report. Zone W-2 groundwater charges and equivalent basic user rates for 1990-91 are $175 per acre-foot for municipal and industrial water and $43.75 per acre-foot for agricultural water. Zone W-5 groundwater charges and equivalent basic user rates for 1990-91 are $46 per acre-foot for municipal and industrial water and $11.50 per acre-foot for agricultural water.

Ronald R. Esau
General Manager

This is the nineteenth annual report on the status of the Santa Clara Valley Water District's Water Utility Enterprise. The purpose of this report is to provide information on the following items:

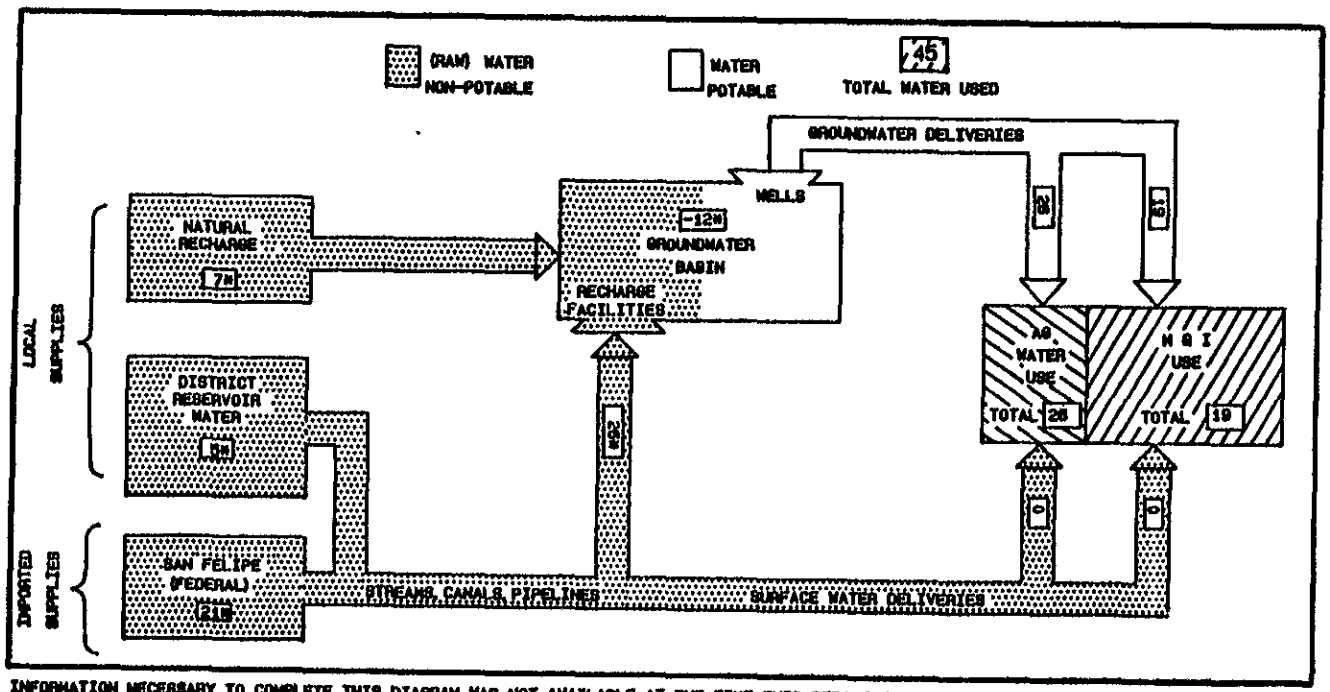
- Current and future water requirements of Santa Clara County
- Current and future water supplies available to meet those requirements
- Future capital improvement needs
- Future financial needs of the Water Utility Enterprise including expenditures and a means of financing them
- Water charges to be levied in any zone or zones of the District for fiscal year 1990-91

1988-89 Water Picture * * *

Rainfall in Santa Clara County during 1988-89 was about 70% of normal. This was the third consecutive drought year. Due to very limited local supplies, the District imported additional water from the San Felipe Division which was used to recharge the groundwater basins and supply the treatment plants. In response to dropping groundwater levels, in March 1989, the District's Board of Directors asked for a mandatory countywide water use reduction from the 1987 water use over the remaining nine months. Actual reduction by major water retailers in calendar year 1989 was about 19% in comparison to the 22% goal.

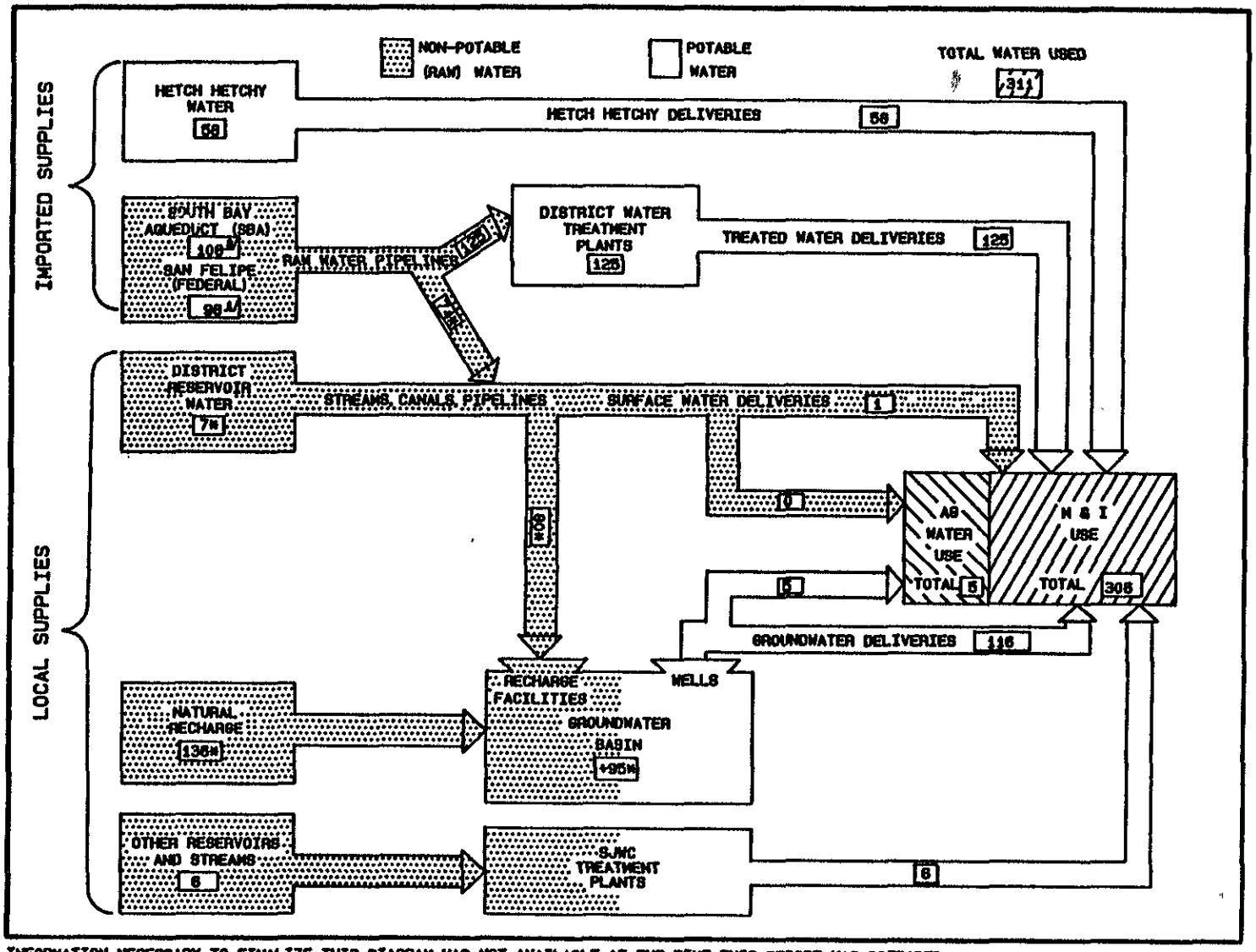
Except for groundwater deliveries, information on the following charts is for water year October 1988 through September 1989. Groundwater delivery data is recorded only semiannually; therefore, it is for fiscal year July 1988 through June 1989.

WATER SUPPLY & USE
SOUTH SANTA CLARA COUNTY
(ZONE W-5)
1988-89
(VALUES IN THOUSAND ACRE-FEET)



INFORMATION NECESSARY TO COMPLETE THIS DIAGRAM WAS NOT AVAILABLE AT THE TIME THIS REPORT WAS PREPARED
*PRELIMINARY - SUBJECT TO REVISION

WATER SUPPLY AND USE
NORTH SANTA CLARA COUNTY
(ZONE W-2)
1988-89
(VALUES IN THOUSAND ACRE-FEET)



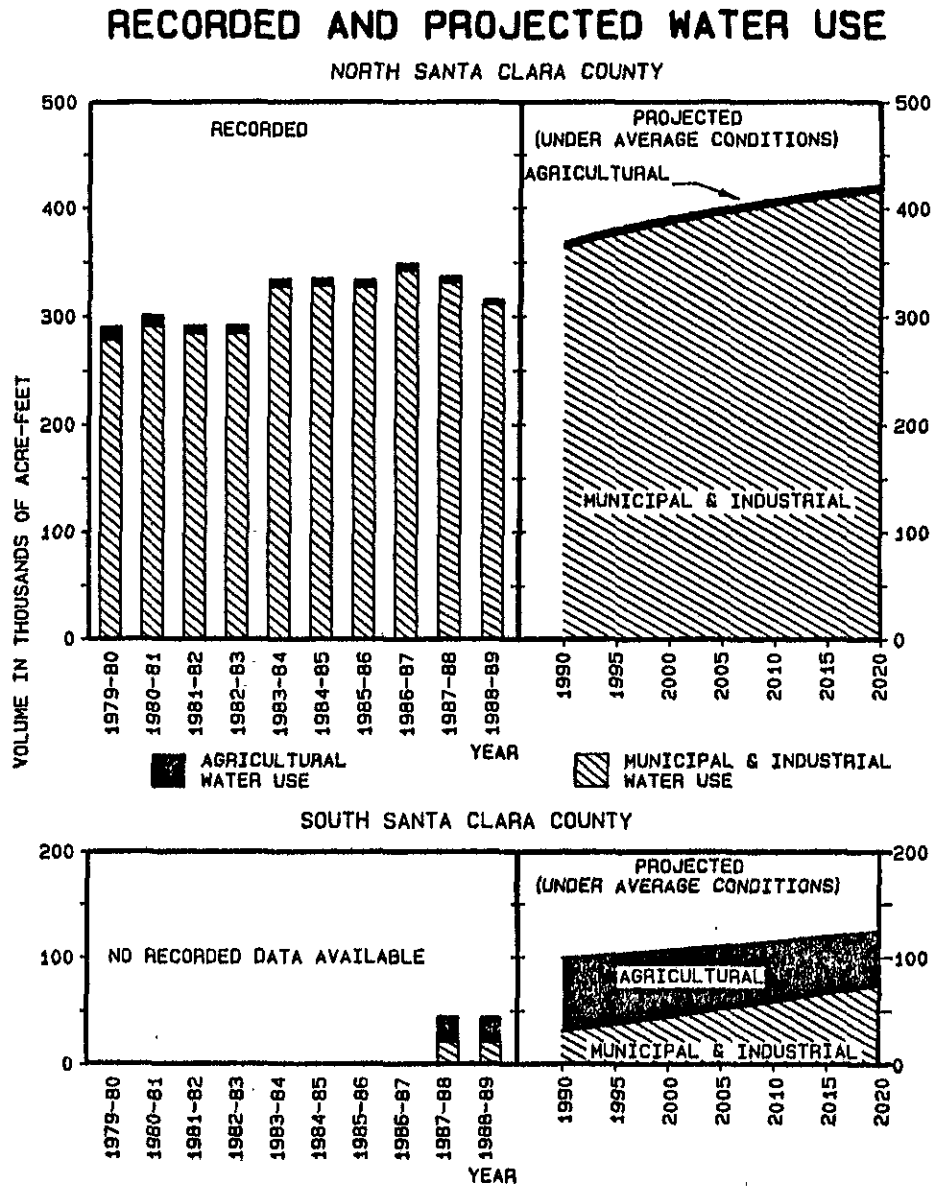
INFORMATION NECESSARY TO FINALIZE THIS DIAGRAM WAS NOT AVAILABLE AT THE TIME THIS REPORT WAS PREPARED
A/ INCLUDES 7,000 AF OF SAN FELIPE WATER INTO RESERVOIR STORAGE
B/ INCLUDES 17,000 AF OF YUBA COUNTY WATER
N PRELIMINARY - SUBJECT TO REVISION

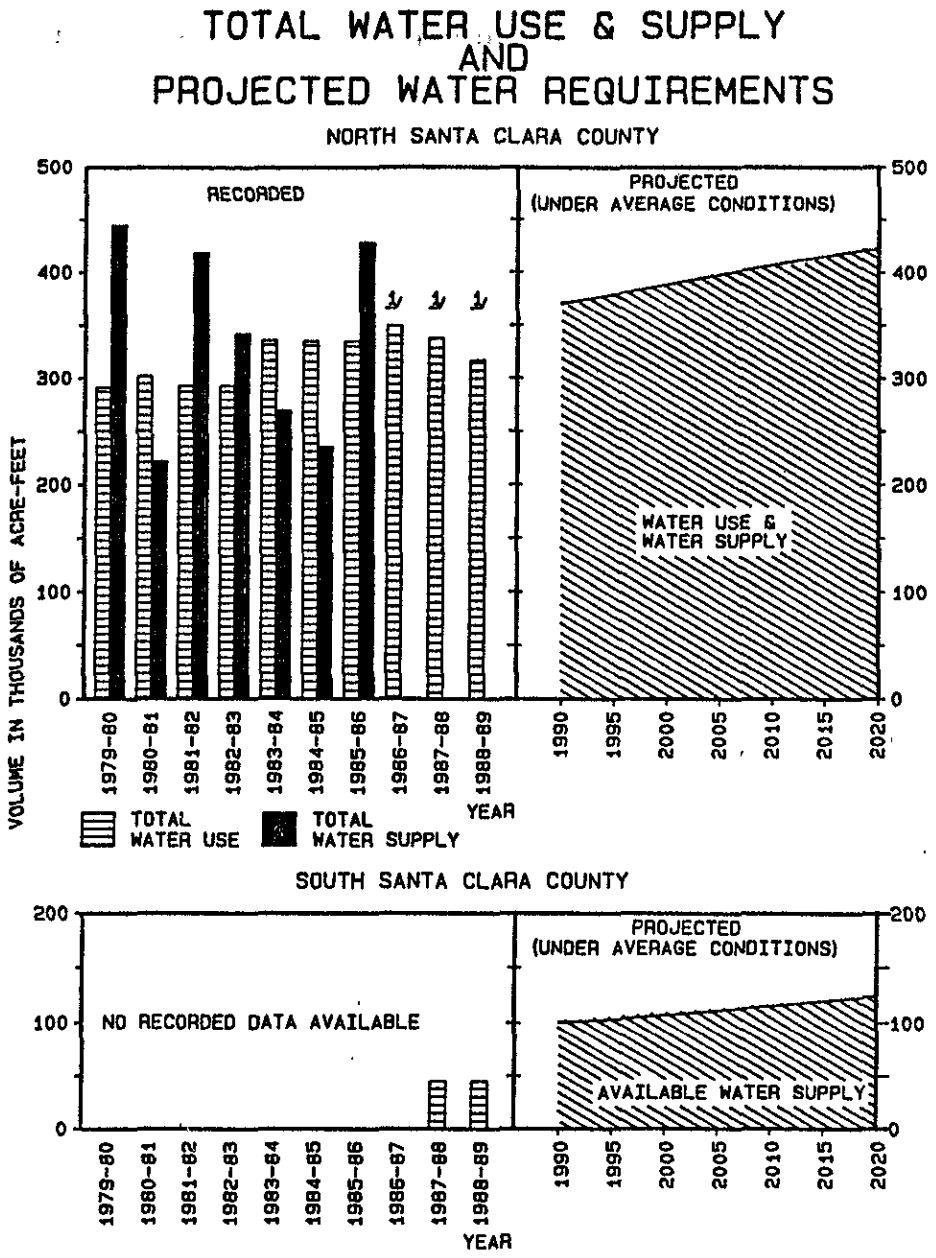
Water Use * * *

Water use in Santa Clara County is categorized as either agricultural or municipal and industrial. Recorded North County water use since 1979-80 and South County Water use since 1987-88 are shown to the right. Metcalf Road is the dividing line between Zone W-2, North County, and Zone W-5, South County. The North County includes the Santa Clara Valley Subbasin while both the Coyote and Llagas Subbasins are in the South County.

Water use in North Santa Clara County is predominantly municipal and industrial. The projections show an increase through 2020 when the total annual water use is estimated to be 420,000 acre-feet. Agricultural water use is expected to continue to decrease through 2020.

In South Santa Clara County, it is anticipated that municipal and industrial water requirements will continue to increase while agricultural requirements will decrease. Total annual water use in South Santa Clara County was projected to increase to about 125,000 acre-feet by 2020 based on land use projections.





1/ Some data necessary to determine 1986-89 values are not yet available.

Present sources of water supply in North Santa Clara County consist of locally conserved water and water imported via the South Bay Aqueduct, San Felipe Division, and Hetch Hetchy Aqueduct. The recorded annual water supply and water use in North Santa Clara County since 1979-80 are shown to the left. South Santa Clara County is supplied by locally conserved water and water imported via the San Felipe Division.

The 1988-89 rainfall was approximately 70% of normal, runoff was below normal, and the District's Board of Directors asked for mandatory water conservation. The 1989-90 rainfall is also below normal. On March 6, 1990 the Board of Directors reinstituted a mandatory water use reduction program, 20% for Zone W-2 and 25% for Zone W-5.

In County Water Distribution * * *

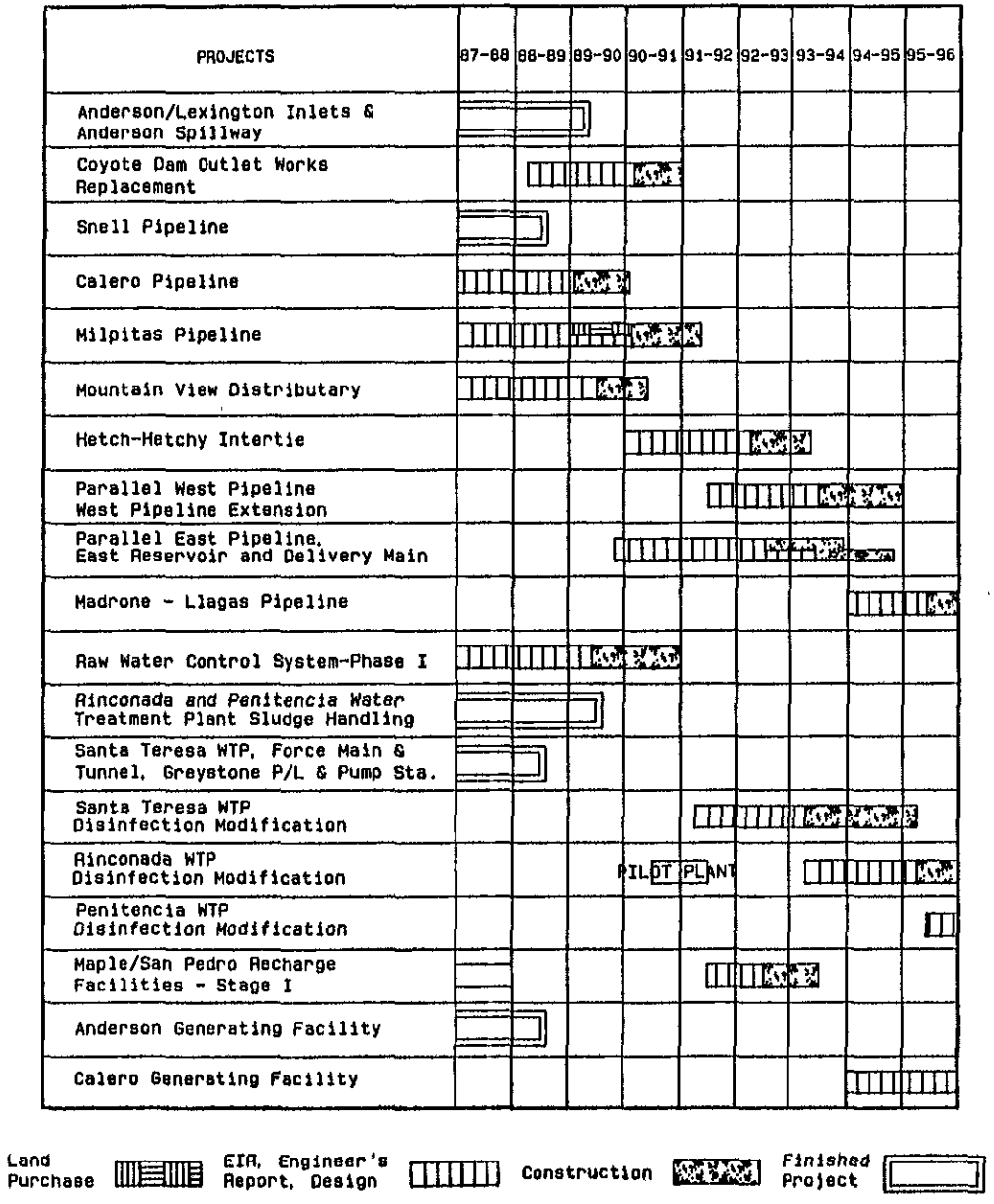
In 1975, the District published its Master Plan describing projects required to meet projected water needs in Santa Clara County through the year 2020. That construction program has been updated to meet changing conditions. Rinconada and Penitencia Sludge Handling Facilities were recently completed, and Calero Pipeline was completed in July 1990. The first phase of the Raw Water Control System design is complete, the contracts are out for bid and contract award is scheduled for summer, 1990. The Mountain View Distributary construction contract was awarded in January. The Milpitas Pipeline is scheduled for advertisement in late 1990. The Coyote Dam and Outlet Works Replacement was advertised in July 1990. The Parallel East Pipeline and East Reservoir and Delivery Main are scheduled for construction during 1992 through 1995. The West Pipeline Extension and Parallel West Pipeline are scheduled for construction in 1993 through 1995. Water treatment plant disinfection modifications necessary to meet the Environmental Protection Agency's expected new disinfection by-product standards are scheduled to begin at Santa Teresa in 1994, Rinconada in 1996, and Penitencia in 1997.

The 1983 master plan report for South Santa Clara County recommended a groundwater recharge and extraction system for meeting projected supplemental South County water needs. Maple Avenue and San Pedro Recharge Facilities and the Madrone-Llagas Pipeline are currently scheduled for construction in 1993-95.

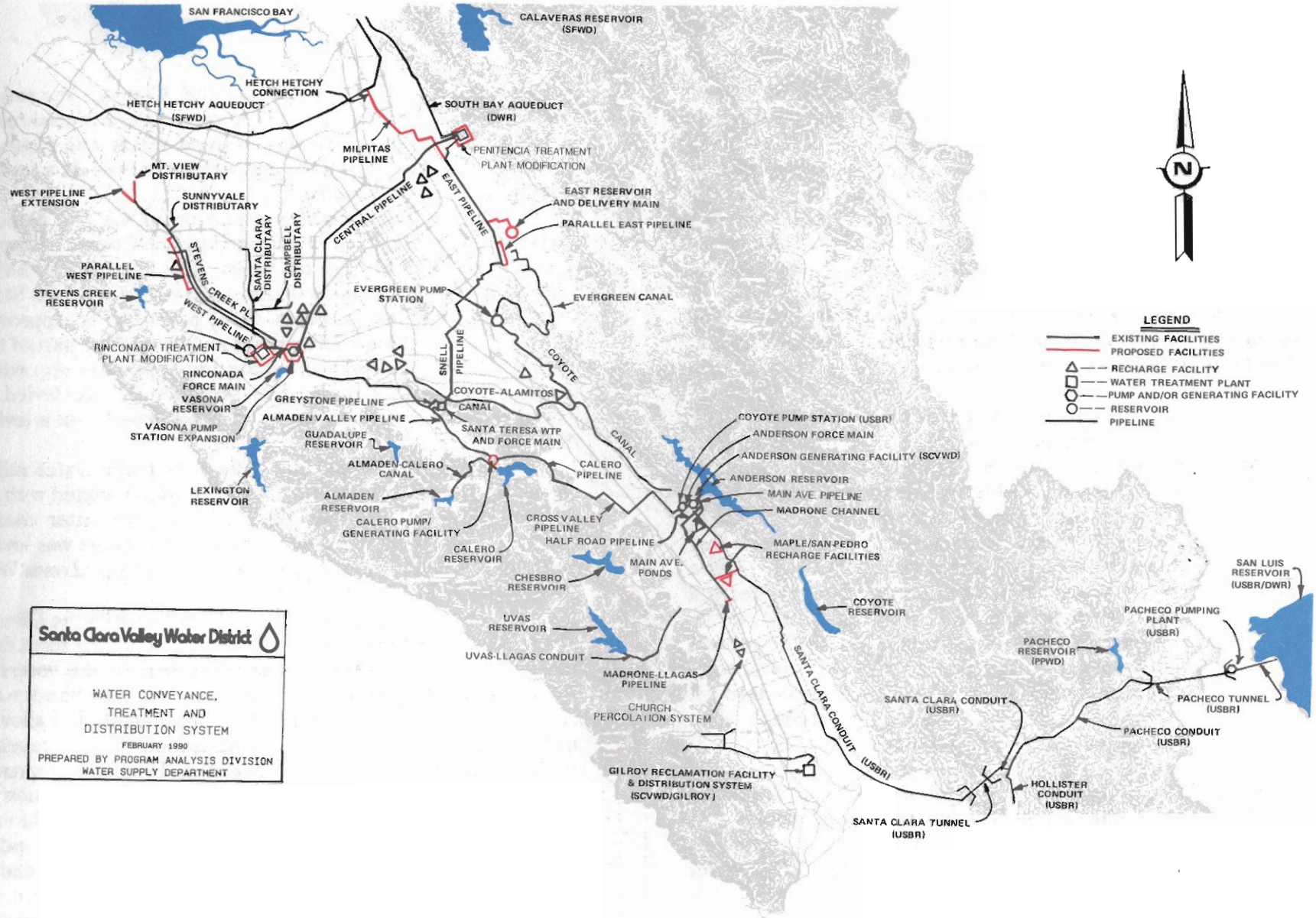
A Calero generating facility is scheduled for construction after 1996.

The map on the following page shows the location of the District's major existing and proposed facilities.

NEW FACILITY CONSTRUCTION PROGRAM
FOR THE WATER UTILITY ENTERPRISE
1987-88 THROUGH 1995-96



* * * Improvement and Expansion



Sources of Revenue * * *

In 1971 the District's Board of Directors, upon recommendation of the Santa Clara Valley Water Commission, adopted the current water pricing policy. This pricing policy incorporates two important concepts in water resources management: (1) a water pooling concept in which water for a given zone of benefit is considered a single commodity with a uniform value regardless of source or cost and (2) a water management concept in which the user pays for benefits received.

Where it is possible to determine the benefits a user receives directly, the pricing policy establishes water charges. The District's major water charges are:

- A groundwater charge and equivalent basic user charge, which are associated with the benefit of water consumption. The groundwater charge is an excise tax applied to water extracted from the groundwater basin in groundwater charge zones, while the basic user charge is applied to other types of water delivered by the District. There are two rates, one for agricultural (Ag) water and one for municipal and industrial (M&I) water. Revenue from these charges pays for the general costs of providing water and for the capital costs of constructing in-county facilities, either through "pay as you go" financing, or through debt repayment of bonds and loans.

- A treated water surcharge, which is associated with the benefit of receiving treated water. It is levied in addition to the basic user charge on water delivered from the District's water treatment plants.

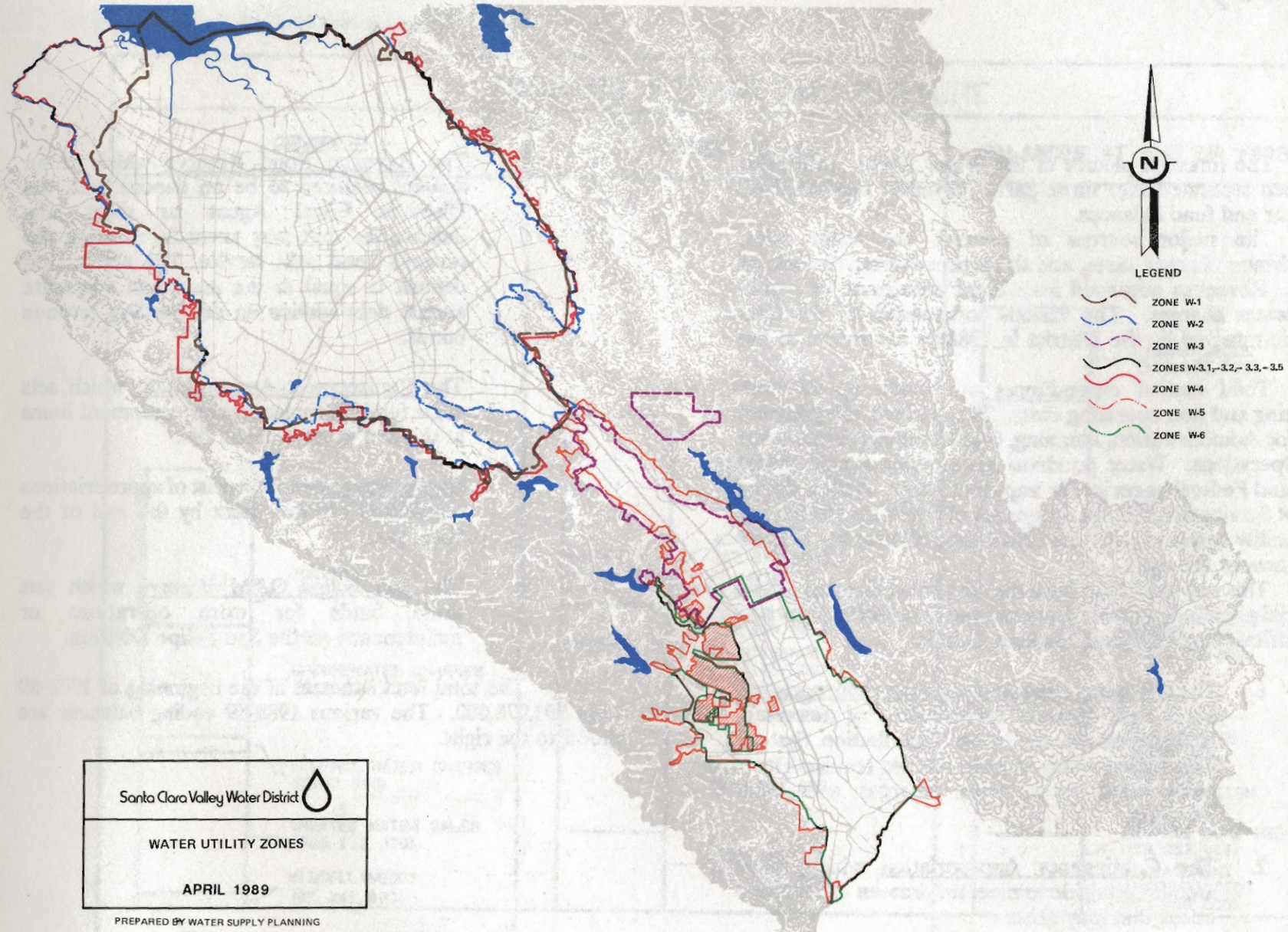
Several benefits are general in nature serving all or large areas of the County. Some of these benefits are the availability of imported water to the County, recreation associated with the District's reservoirs, and the replenishment of the County's groundwater subbasins which has virtually halted land surface subsidence and which can provide a supply of water in drought periods.

The District receives a portion of the one percent Countywide tax revenues as allocated by the County Assessor based on pre-1978 District tax levies. The District also levies additional ad valorem taxes under Article XIII A of the State Constitution for the purposes of a) paying prior approved general obligation bond debt service and b) meeting part of the contractual obligations to the State for South Bay Aqueduct water. The District's major debt service taxes are levied in Zones W-1 and W-6 while the State Water Project Tax is levied Countywide.

The map at the right locates the major water utility zones. Zones W-1, W-3, W-4, and W-6 are associated with ad valorem taxes while Zones W-2 and W-5 are water charge zones. In fiscal year 1987-88, a groundwater charge was levied in Zone W-5, which included previous water charge Zones W-6, W-3.1, W-3.2, W-3.3 and W-3.5.

To fund the construction of new facilities the District has relied on both pay as you go financing and long term debt financing from revenue bonds as authorized by the voters in 1977. The last remaining 1977 authorized revenue bonds were sold in April 1984. In January 1984, State legislation allowed the District to seek electorate authorization to issue revenue bonds as needed following the Board of Directors' approval. Santa Clara County voters approved this authorization in November 1984. The District sold an additional $30 million of revenue bonds in November 1985 to provide needed funding for ongoing projects. In August 1986, the District refunded all outstanding water revenue bonds. The refunding was for $94,935,000 at 6.8% interest and will generate an estimated savings of about $200,000 per year over 20 years.

* * * Related to Costs of Providing Benefits



The Financial Picture * * *

The financial picture of the Water Utility Enterprise has been separated into three parts: revenue, expenditures, and year end fund balances.

The major sources of revenue are water sales, groundwater charges, taxes, and the proceeds from the sale of bonds. Revenues advanced from bond sales must be repaid from water charges. The various components of the total revenue received by the District in 1988-89 are shown to the right.

Total annual expenditures are made up of both operating and non operating costs. They include the program costs for Administration, Planning, Construction, Maintenance and Operations. Water purchase is the amount paid to the State and Federal agencies for imported water. Also included is Debt Service which is the repayment of bonds sold to finance new facility construction. The actual expenditures for 1988-89 are shown to the right.

The year-end fund balances, the third element of the financial picture, have been appropriated for specific purposes. The various year-end fund balances include:

1. The In-County Distribution System Appropriation which will finance construction of necessary facilities of the In-County Distribution System. This balance may include monies received from bond sales, taxes, water charges and other revenues.

2. The Contingency Appropriation which is an amount set aside to meet unforeseen expenditure needs that may arise.

3. The Revenue Bond Reserve which is an amount required to be on deposit with the District's Fiscal Agent to meet any deficiencies that may occur in meeting the revenue bond debt service. The amount on deposit is equal to the maximum aggregate annual debt service on outstanding revenue bonds.

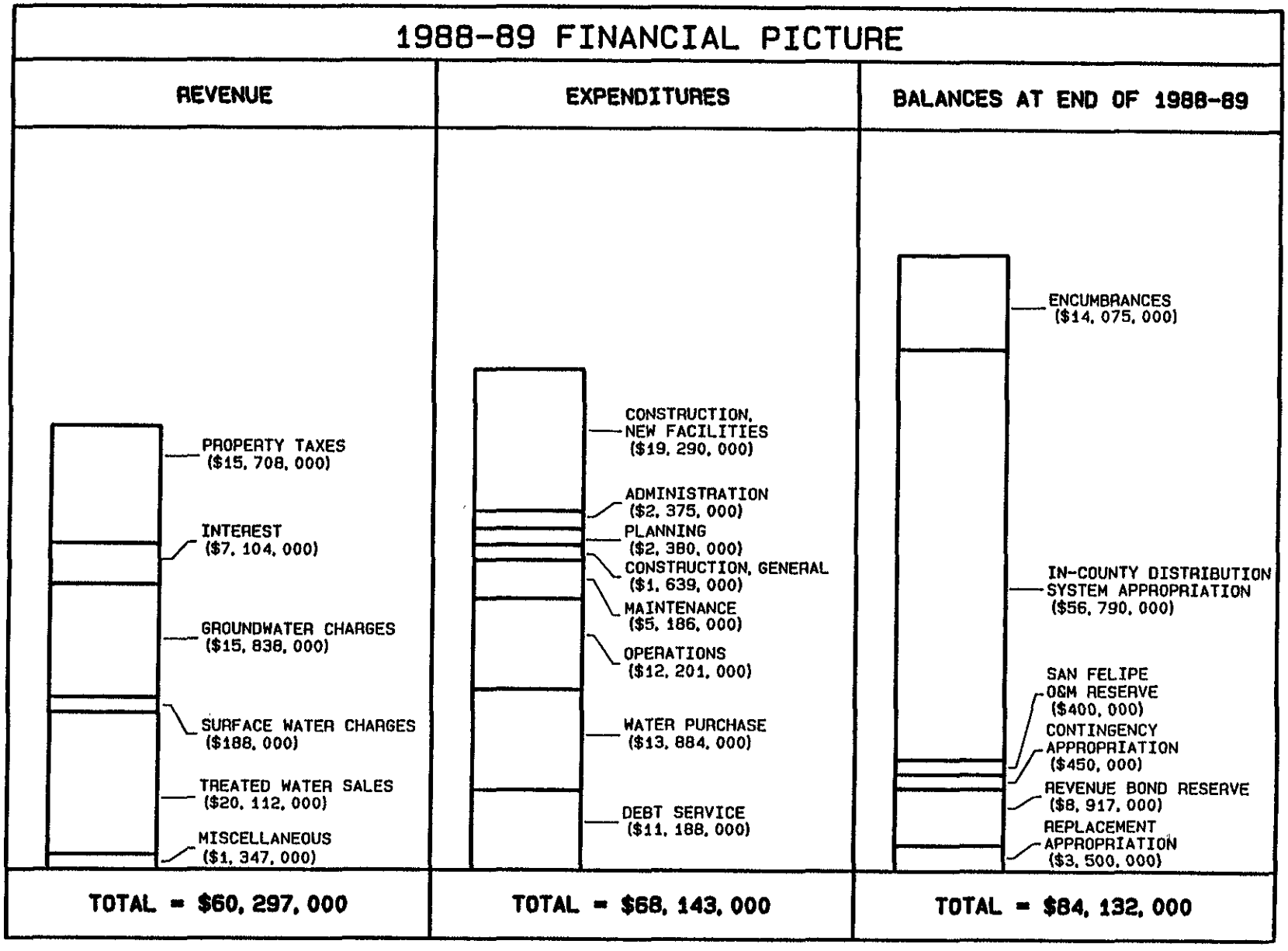
4. The Replacement Appropriation which sets aside funds to replace major equipment items at the end of their useful life.

5. Encumbrances which consist of appropriations committed but not spent by the end of the fiscal year.

6. The San Felipe O&M Reserve which sets aside funds for extra operations or maintenance on the San Felipe Division.

The total fund balances at the beginning of 1988-89 were $91,978,000. The various 1988-89 ending balances are shown to the right.

* * * of the Water Utility Enterprise (1988-89)



Financial Estimates * * *

Revenues, expenditures, and year-end balances for the 1989-90 fiscal year as updated in June 1990 are shown in the chart on the opposite page.

Revenue from groundwater charges and raw surface water sales are collected semi-annually in the month following the six-month period in which the water was used. Therefore, the 1989-90 revenue projections include six months of 1988-89 and six months of 1989-90 groundwater deliveries. In Zone W-2, the M&I rate was $100.00 per acre-foot in 1988-89 and the Ag rate was $25.00 in 1988-89. In 1989-90, the M&I rate was $135.00 per acre-foot and $31.25 per acre-foot for Ag. In Zone W-5 the M&I rate was $26.00, and Ag rate was $6.50 for 1988-89. In 1989-90, the rates were $39.00 per acre-foot for M&I and $9.75 per acre-foot for Ag.

The contract treated water sales revenue for 1989-90 is based on the basic user rate of $135 and the treated water surcharge rate of $75 for a combined rate of $210 per acre-foot.

Estimated revenue from property taxes include income from the one percent allocation ($6,457,000), from debt services taxes ($2,305,000), and from the State Water Project Tax ($7,731,000).

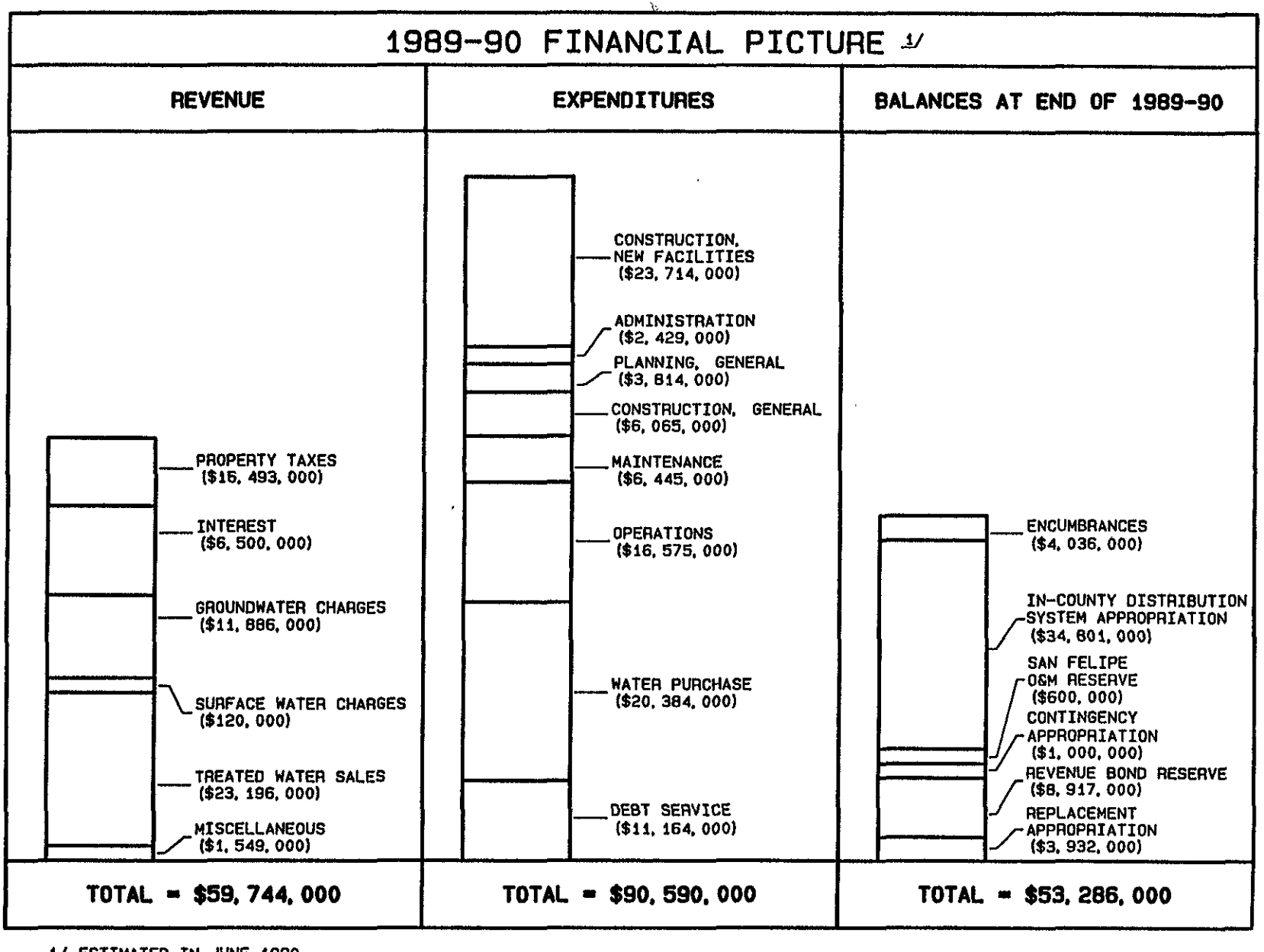
The estimated 1989-90 expenditures are as shown in the chart on the opposite page. The construction expenditures are not the total contract amounts. Only the estimated dollars spent (cash outflow) during the year are shown in the chart and discussed on this page as expenditures. The remaining contract amount encumbered for future years' expenditures are included in the year end balances.

The major expenditures for this year are the construction of the Calero Pipeline ($8,432,000), the land purchase for and design of the Milpitas Pipeline ($5,250,000) and the design and construction of the Raw Water Control System ($3,992,000), the design and construction of the Mountain View Distributary ($1,780,000), and the completion of the Penitencia and Rinconada Water Treatment Plant Sludge Handling Facilities ($500,000). Additional expenditures include $280,000 for planning for the Parallel East Pipeline and $146,000 for planning for the treatment plant disinfection modifications.

The budgeted cost of $10,050,000 is for 91,000 acre-feet of imported water from the State Water Project. The District's water deliveries from the San Felipe Division for calendar year 1990 was reduced by the Bureau on February 13, 1990. The estimated cost for San Felipe water is $4,800,000 for 85,000 acre-feet in 1989-90. An estimated $5,537,000 for 43,000 acre-feet of water from the Yuba County Water Agency is also included in 1989-90.

* * * for the Current Year

(1989-90)



1/ ESTIMATED IN JUNE 1990

Financial Projections * * *

Revenue as projected in February 1990 for fiscal year 1990-91 is shown on the opposite page. The projected revenue is based on groundwater charges and basic user rates for groundwater extractions and raw surface water deliveries made in the latter half of 1989-90 and the first half of 1990-91 and for treated water throughout the year. In Zone W-2, the rates are $175 per acre-foot for M&I water and $43.75 per acre-foot for Ag water in 1990-91. The treated water surcharge rate for 1990-91 is $70 per acre-foot for a total treated water charge of $245 per acre-foot. In Zone W-5, the corresponding rates for groundwater extractions and raw surface water for 1990-91 are $46 per acre-foot for M&I water and $11.50 per acre-foot for Ag water.

The projected revenue from taxes includes the one percent allocation ($6,880,000), the debt service taxes ($2,248,000), and the State Water Project tax ($7,420,000).

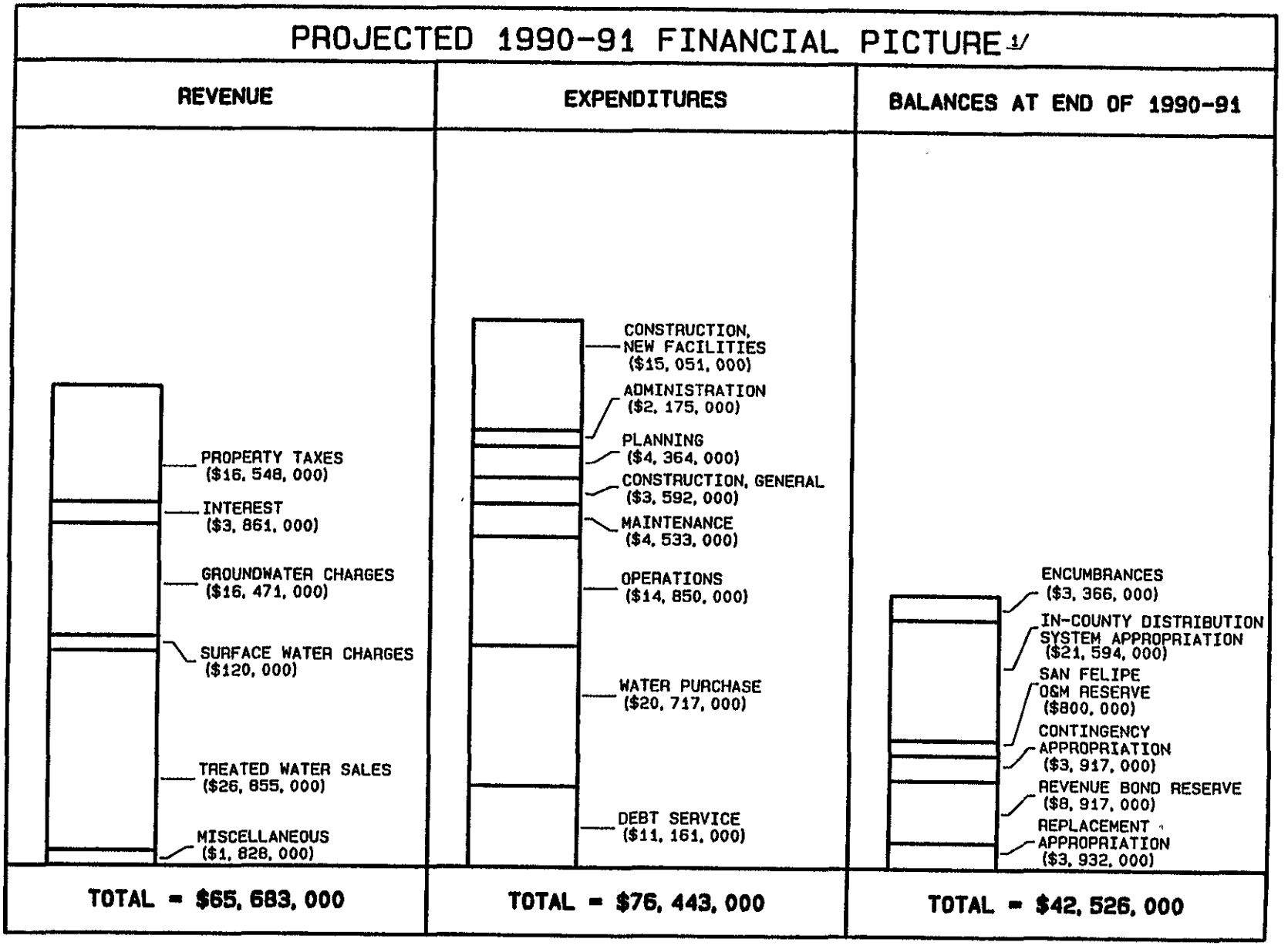
Projected expenditures for 1990-91 include costs to operate and maintain the existing facilities, to purchase the State Water Project and San Felipe Division water, and to design and build new facilities.

The projected 1990-91 expenditures shown on the opposite page and discussed on this page are estimated actual expenditures, not contract amounts. Estimated dollars remaining to fulfill outstanding contract obligations are shown as encumbrances at the end of 1990-91.

Major costs are Coyote Dam outlet works replacement construction ($1,904,000), Raw Water Control System design and construction ($1,342,000), evaluating water treatment plant disinfection modifications with a pilot plant ($567,000), Milpitas Pipeline construction ($10,208,000), Mountain View Distributary construction ($680,000), East Reservoir and Delivery Main planning ($107,000), Parallel East Pipeline planning and design ($700,000), and Hetch Hetchy Intertie planning ($225,000).

The cost of imported water from the State Water Project is estimated at about $9,428,000 for 93,000 acre-feet of entitlement in 1990-91. The cost of delivering the remaining 29,000 acre-feet of water from the Yuba County Water Agency is about $990,000 in 1990-91. The delivery from the San Felipe Division was reduced to 76,250 acre-feet for calendar year 1990. Due to a pricing policy change by the Bureau of Reclamation, the District's Board of Directors decided to set aside $10,300,000 to cover the interest on the District's allocation of Municipal and Industrial capital costs, plus the operations and maintenance costs, plus agriculture water costs, of the Central Valley Project. From the above funds, the contract cost for municipal and industrial water as well as agricultural water will be paid to the Bureau while the remaining will be held in reserve by the District.

* * * for the Next Fiscal Year (1990-91)



1/ ESTIMATED IN JUNE 1990

Water Charges * * *

Groundwater charges and equivalent basic user rates to be levied in 1990-91 in Zone W-2 and Zone W-5 are summarized in Table I and Table II, respectively. The countywide ad valorem State Water Project Tax will be levied to generate $7,420,000.

TABLE I

GROUNDWATER CHARGES
AND BASIC USER RATES
IN ZONE W-2
FOR
FISCAL YEAR 1990-91

Agricultural Water (Ag)	$43.75/Acre-Foot
Nonagricultural Water (M&I)	$175.00/Acre-Feet

TABLE II

GROUNDWATER CHARGES
AND BASIC USER RATES
IN ZONE W-5
FOR
FISCAL YEAR 1990-91

Agricultural Water (Ag)	$11.50/Acre-Foot
Nonagricultural Water (M&I)	$46.00/Acre-Foot

WATER COMPONENTS
AND WATER CHARGES
FOR FISCAL YEAR 1990-91

Components		Charges		
COMPONENT	RATE	TYPE OF CHARGE	AG WATER	M & I WATER
Basic User, Zone W-2		Groundwater		
Agricultural	$ 43.75/AF	Zone W-2	$43.75/AF	$175.00/AF
Municipal and Industrial	$175.00/AF	Zone W-5	11.50/AF	46.00/AF
Basic User, Zone W-5		Surface Water 1/		
Agricultural	11.50/AF	Evergreen Deliveries	72.00/AF	N/A
Municipal and Industrial	46.00/AF	Half Road Deliveries	32.00/AF	66.50/AF
		Other Zone W-5 Deliveries	22.75/AF	57.25/AF
Treated Water Surcharge		Other Zone W-2 Deliveries	55.00/AF	186.25/AF
Contract	70.00/AF	Minimum Charge - Zone W-5	45.75/YR	45.75/YR
Noncontract	50.00/AF	Minimum Charge - Zone W-2	142.50/YR	142.50/YR
Water Master	11.25/AF	Stored Water		
		Zone W-2	43.75/AF	175.00/AF
		Zone W-5	11.50/AF	46.00/AF
Capital Cost		Treated Water 2/		
Half Road Lateral System	2.75/AF	Contract	-	245.00/AF
		Noncontract	-	225.00/AF
Power				
Half Road Lateral System	6.50/AF	Reclaimed Water		
Evergreen System	37.00/AF	Gilroy	20.00/AF	80.00/AF

1/ Surface water charge is the sum of the basic user plus the water master. Also, it includes the capital cost and power wherever applicable. Evergreen agriculture delivery changes are the same as 1989-90. The District is no longer delivering M&I water to the Evergreen area.

Half Road = Basic User (AG or M&I @ $11.50 or $46.00) + Water Master ($11.25) + Capital ($2.75) + Power ($6.50)

Other Zone W-5 Deliveries = Basic User (AG or M&I @ $11.50 or $46.00) + Water Master ($11.25)

Other Zone W-2 Deliveries = Basic User (AG or M&I @ $43.75 or $175) + Water Master ($11.25)

Minimum Charge W-5 = 0.75 X Basic User W-5 (M&I @ $46) + Water Master ($11.25)

Minimum Charge W-2 = 0.75 X Basic User W-2 (M&I @ $175) + Water Master ($11.25)

2/ Treated Water Charge is the sum of Basic User ($175) and Treated Water Surcharge ($70)